

Strabismus In Adults

Misalignment Of The Eyes



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What Is Adult Strabismus?

Strabismus is a condition in which the eyes are misaligned and point in different directions. Adult strabismus occurs in approximately one percent of the population.

What Causes Adult Strabismus?

Most adult strabismus is simply persistent childhood strabismus. Strabismus which occurs in adulthood without a history of childhood eye misalignment should be evaluated carefully for medical or neurological causes such as diabetes, thyroid disease, myasthenia gravis, brain tumors, or strokes.



In this form of strabismus, called **exotropia**, the eye turns outward.

What Are The Symptoms Of Adult Strabismus?

If strabismus has been present since childhood, symptoms are usually minimal. If the strabismus develops late in childhood or as an adult, the most common

symptom is double vision. Some adults with strabismus will have eye strain, discomfort with reading, headaches, or may even turn or tilt their head to use their eyes together. Children and adults whose eyes turn out (exotropia) often squint or close one eye in sunlight.



In this form of strabismus, called **esotropia**, the eye turns inward.

What Causes Double Vision?

When the eyes are misaligned each eye sees a separate image. Infants and children whose eyes are misaligned can learn to suppress or ignore the image from one eye and consequently avoid seeing a double image. However adults are unable to suppress one image. The resulting double vision can be relieved by closing one eye, wearing a patch or aligning the eyes.

How Is Adult Strabismus Treated?

There is a common misconception that strabismus in adults is difficult or impossible to treat. Actually, adults with strabismus have many treatment options

including *eye exercises*; *prism glasses*; *eye muscle surgery*, with or without adjustable sutures; and in some cases, *Oculinum™* injections.

Eye Exercises

Eye muscle exercises may be helpful in treating special problems such as *convergence insufficiency*, a condition in which the eyes do not function well for close work or reading. But eye muscle exercises are rarely useful for ocular misalignment.

Prism Glasses

Glasses with prisms are most useful for correcting small deviations. Images are re-aligned by the prisms to compensate for the misalignment of the eyes and may relieve double vision.

Oculinum™

The eye muscle can be injected with *Oculinum™*, a new drug that temporarily paralyzes the muscle. This temporary effect wears off in a few months but may result in a permanent change in the eye alignment. This technique is useful in selected cases, especially in individuals with nerve palsies.

Surgery

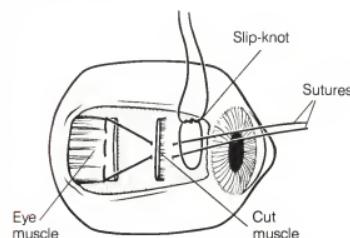
The most common treatment for strabismus at any age is surgery on the eye muscles. A tight muscle is surgically weakened by cutting through the muscle and repositioning it further back on the eye. A weak muscle is tightened by removing a small segment of the muscle, thereby shortening it. Surgery may be performed

on the straight eye, the misaligned eye, or both eyes.

Strabismus surgery is usually performed under general anesthesia. Sometimes, surgery can be performed with the individual awake or slightly sedated by an injectable local anesthetic or anesthetic eyedrops.

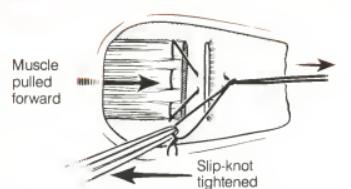
Adjustable Sutures

This special surgical technique allows some post-operative adjustment of eye alignment. The operation is performed in two stages. In the first stage, one or more eye muscles are repositioned with "slip-knot" sutures.

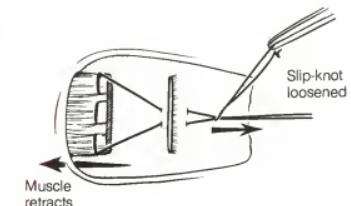


A slip-knot is placed around sutures attached to the cut and repositioned eye muscle.

The second phase is usually performed within the next 24 hours using a topical anesthetic. If further re-alignment is necessary, the "slip-knot" suture allows the adjustment to be made.



Tightening the slip-knot pulls the cut eye muscle forward.



Loosening the slip-knot allows the muscle to retract.

This technique requires the cooperation of the patient and may not be suitable for everyone.

What Are The Risks Of Strabismus Surgery?

The risks of strabismus surgery are extremely low, but as with all surgery there are potential problems. These may include an unfavorable reaction to anesthesia, infection, reduced or double vision, and inadequate eye alignment. The particular risk depends on the nature of the surgery.

Summary

An adult does not need to live with misaligned eyes. Glasses, prisms, exercises and other treatments can sometimes help. Surgery can be done to align the eyes for cosmetic reasons, to eliminate double vision, or to improve use of the eyes together and reduce eye fatigue. Advances in surgical techniques allow an excellent chance of successful alignment and an improved appearance for most individuals.

The American Academy of Ophthalmology is an organization of 16,000 ophthalmologists dedicated to preserving eye health and sight. Remember, an ophthalmologist provides **total eye care**: medical, surgical and optical.

This brochure was written in conjunction with the American Association for Pediatric Ophthalmology and Strabismus, an organization of pediatric ophthalmologists dedicated to prevention and treatment of eye problems in children and strabismus in adults.